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(71) Applicant: NATIONAL INSTITUTE OF
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(54) NOISE REDUCTION DEVICE FOR SIGNAL LIGHT AND METHOD FOR REDUCING NOISE OF SIGNAL LIGHT

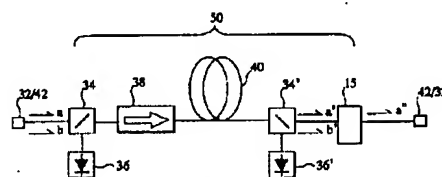
(57) Abstract:

PROBLEM TO BE SOLVED: To contrive to prolong the span of a transmission distance by reducing amplified spontaneous emission (ASE) undesirably generated in optical communication.

SOLUTION: The noise reduction device uses a carbon nanotube as a saturable absorber 15. The saturable absorber ensures the functioning of blocking or reducing the transmission of the undesirable amplified spontaneous emission (ASE) or the like having low signal light intensity and of transmitting signal light having high optical intensity. The noise reduction device is inserted in a passage for the signal light in a bi-directional excitation type EDFA (erbium doped fiber

amplifier) 50, for example, more particularly, the noise reduction device is inserted in the downstream part of the EDF 40 to contrive its use in the optical communication field of the carbon nanotube having a saturable absorption function.

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50: 双方向励起型EDFA

この実施の形態の双方向励起型EDFAの概略構成図



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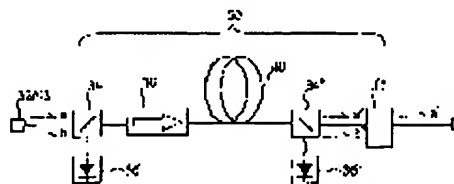


図1 本発明の構成図

この装置の原理の図1に示すように、本発明の構成図は、




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🔍 Title: **JP2003248251A2: NOISE REDUCTION DEVICE FOR SIGNAL LIGHT , METHOD FOR REDUCING NOISE OF SIGNAL LIGHT**

🔍 Derwent Title: Signal light noise reduction apparatus for optical communication, has carbon nanotube serving as saturable absorber, inserted in path of signal light of erbium doped fiber amplifier [\[Derwent Record\]](#)

🔍 Country: JP Japan

🔍 Kind: A2 Document Laid open to Public inspection i

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🔍 Assignee: NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL & TECHNOLOGY

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🔍 ECLA Code: G02F1/35D;

🔍 Priority Number: 2002-02-25 JP2002000048392

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